CONFERENCE ON DISARMAMENT

CD/1125
14 February 1992

Original: ENGLISH

Mandate for an Ad Hoc Committee under item 5 of the agenda of the Conference on Disarmament entitled "Prevention of an Arms Race in Outer Space"

(Adopted at the 612th plenary meeting on 13 February 1992)

In the exercise of its responsibilities as the multilateral disarmament negotiating forum in accordance with paragraph 120 of the Final Document of the first special session of the General Assembly devoted to disarmament, the Conference on Disarmament decides to re-establish an Ad Hoc Committee under item 5 of its agenda entitled "Prevention of an Arms Race in Outer Space".

The Conference requests the Ad Hoc Committee, in discharging that responsibility, to continue to examine, and to identify, through substantive and general consideration, issues relevant to the prevention of an arms race in outer space.

The Ad Hoc Committee, in carrying out this work, will take into account all existing agreements, existing proposals and future initiatives as well as developments which have taken place since the establishment of the Ad Hoc Committee, in 1985, and report on the progress of its work to the Conference on Disarmament before the end of its 1992 session.

GE.92-60304/8622a

CONFERENCE ON DISARMAMENT

CD/1126
17 February 1992

ENGLISH
Original: SPANISH

LETTER DATED 7 FEBRUARY 1992 FROM THE HEADS OF THE DELEGATIONS OF ARGENTINA, BRAZIL AND CHILE ADDRESSED TO THE SECRETARY-GENERAL OF THE CONFERENCE ON DISARMAMENT TRANSMITTING THE TEXT OF THE JOINT DECLARATION ON THE COMPLETE PROHIBITION OF CHEMICAL AND BIOLOGICAL WEAPONS, "THE MENDOZA AGREEMENT"

We have the honour to transmit to you the text of the Joint Declaration on the Complete Prohibition of Chemical and Biological Weapons, known as the "Mendoza Agreement", signed by the Ministers for Foreign Affairs of Argentina, Brazil and Chile in Mendoza, Argentina, on 5 September 1991, to which the Republics of Bolivia, Paraguay and Uruguay have acceded.

We should be very grateful if you, Sir, in accordance with the established practice, would arrange for this text to be issued as an official document of the Conference on Disarmament and distributed to all delegations, including those of the member States and States with observer status.

(Signed) Roberto García Moritán
Ambassador
Special Mission of the
Argentine Republic
on Disarmament

(Signed) Celso L.N. Amorim
Ambassador
Permanent Representative
of Brazil

(Signed) Ernesto Tironi Barrios
Ambassador
Permanent Representative
of Chile

GE.92-60328/3018H

JOINT DECLARATION ON THE COMPLETE PROHIBITION OF CHEMICAL AND BIOLOGICAL WEAPONS

MENDOZA AGREEMENT

THE GOVERNMENT OF THE REPUBLIC OF CHILE,
THE GOVERNMENT OF THE ARGENTINE REPUBLIC AND
THE GOVERNMENT OF THE FEDERATIVE REPUBLIC OF BRAZIL,

CONVINCED THAT THE COMPLETE BANNING OF CHEMICAL AND BIOLOGICAL WEAPONS WILL CONTRIBUTE TO THE STRENGTHENING OF THE SECURITY OF ALL STATES,

DETERMINED TO CONSOLIDATE THE REGION AS AN AREA OF PEACE AND COOPERATION FREE FROM THE SCOURGE OF THESE WEAPONS OF MASS DESTRUCTION,

CONFIRMING THE RESPECTIVE UNILATERAL DECLARATIONS ON NON-POSSESSION OF CHEMICAL WEAPONS OPPORTUNELY MADE BY THE THREE COUNTRIES,

AGREEING ON THE NEED TO PREVENT THE SPREAD OF SUCH WEAPONS THROUGH A MULTILATERAL CONVENTION CURRENTLY UNDER NEGOTIATION AT THE DISARMAMENT CONFERENCE WHICH WILL COMPLETELY PROHIBIT CHEMICAL WEAPONS AND THEIR PRODUCTION INSTALLATIONS, AND URGING ALL STATES PRODUCING OR POSSESSING SUCH WEAPONS TO ACCEDE TO IT,

CONTRIBUTING TO THE CONFIDENCE-BUILDING MEASURES DECIDED ON BY THE STATES PARTIES TO THE 1972 CONVENTION ON THE PROHIBITION OF THE DEVELOPMENT, PRODUCTION AND STOCKPILING OF BACTERIOLOGICAL (BIOLOGICAL) AND TOXIN WEAPONS AND ON THEIR DESTRUCTION, WHOSE THIRD REVIEW CONFERENCE IS TO BE HELD IN GENEVA FROM 9 TO 27 SEPTEMBER NEXT,

HEREBY DECLARE THE FOLLOWING:

1. THEIR FULL UNDERTAKING NOT TO DEVELOP, NOT TO PRODUCE, NOT TO ACQUIRE IN ANY WAY, NOT TO STOCKPILE OR RETAIN, NOT TO TRANSFER DIRECTLY OR INDIRECTLY, AND NOT TO USE CHEMICAL OR BIOLOGICAL WEAPONS;

2. UNTIL THE FUTURE CONVENTION ON CHEMICAL WEAPONS ENTERS INTO FORCE, THEY DECLARE THEIR DETERMINATION TO STUDY IN ADVANCE AND JOINTLY ANALYSE ALL MECHANISMS NECESSARY TO ENSURE FULFILMENT OF THE UNDERTAKING MADE;

3. UNTIL SUCH TIME AS THE ABOVE-MENTIONED CONVENTION ENTERS INTO FORCE, AND IN CONFORMITY WITH INTERNATIONAL LAW, THEIR INTENTION TO ESTABLISH IN THEIR RESPECTIVE COUNTRIES THE APPROPRIATE INSPECTION MECHANISMS FOR THOSE SUBSTANCES DEFINED AS PRECURSORS OF CHEMICAL WARFARE AGENTS;

4. THEIR DETERMINATION TO COOPERATE CLOSELY IN ORDER TO FACILITATE THE CONCLUSION OF A MULTILATERAL CONVENTION ON THE PROHIBITION OF CHEMICAL WEAPONS AND TO SIGN IT SIMULTANEOUSLY AS ORIGINAL PARTIES;

5. THEIR RIGHT TO USE ALL PEACEFUL CHEMICAL AND BIOLOGICAL APPLICATIONS FOR THE ECONOMIC AND TECHNOLOGICAL DEVELOPMENT AND FOR THE WELFARE OF THEIR PEOPLES;

6. THEIR CONVICTION THAT THE IMPLEMENTATION OF THE CONVENTION WILL CREATE AMONG THE STATES PARTIES A FRAMEWORK OF MUTUAL TRUST WHICH WILL MAKE IT POSSIBLE SUBSTANTIALLY TO INCREASE INTERNATIONAL COOPERATION IN THE EXCHANGE OF, INTER ALIA, CHEMICAL SUBSTANCES AND RELATED EQUIPMENT AND TECHNOLOGIES;

7. THEIR INTENTION TO MAKE A DECISIVE CONTRIBUTION TO THE SUCCESS OF THE THIRD REVIEW CONFERENCE OF THE PARTIES TO THE CONVENTION ON THE PROHIBITION OF BIOLOGICAL WEAPONS AND THEIR WILLINGNESS TO CONSIDER WAYS OF STRENGTHENING ITS VERIFICATION MECHANISMS;

8. THEIR HOPE THAT OTHER STATES OF THE REGION WILL ACCEDE TO THE PRESENT AGREEMENT.

SIGNED IN MENDOZA (ARGENTINA) ON 5 SEPTEMBER 1991.

FOR THE GOVERNMENT OF THE
REPUBLIC OF CHILE

FOR THE GOVERNMENT OF THE
ARGENTINE REPUBLIC

FOR THE GOVERNMENT OF THE FEDERATIVE
REPUBLIC OF BRAZIL

UN

CONFERENCE ON DISARMAMENT

CD/1127
CD/CW/WP.384
18 February 1992

ENGLISH
Original: CHINESE

CHINA

Some information on discovered chemical weapons abandoned in China by a foreign State

One of the most urgent tasks in the negotiations on chemical weapons is to resolve, in a just and thorough way, the issue of chemical weapons abandoned on the territory of one State by another State. In response to requests and proposals by some delegations, the Chinese delegation is now authorized to provide the relevant information in the sections below with a view to promoting mutual understanding and facilitating the work of the Conference and its Ad Hoc Committee on Chemical Weapons.

As is known to all, the Chinese people have in the past been victims of the use of chemical weapons by a foreign State. Even today, the chemical weapons abandoned by that foreign State still cause havoc and constitute a grave threat.

After nearly half a century, such weapons continue to be discovered in China. They have done great harm to the safety of the Chinese people and their properties and ecology. As the foreign State concerned has provided no information on the chemical weapons it abandoned in China, it is impossible to take the necessary precautionary measures when such weapons are discovered, and many injuries have occurred as a result.

Preliminary statistics reveal that direct victims alone have numbered more than 2,000. Furthermore, the danger posed by such abandoned chemical weapons to the natural environment and to the safety of human beings is increasing. For example, the lives of more than 2,000 students and teachers of Gaocheng High School (Shijiazhuang City, Hebei Province) are now threatened by such abandoned chemical weapons discovered on their campus. The normal teaching activities in that school have since been seriously disturbed. In another instance, large amounts of chemical weapons were discovered in the Dunhua region of Jilin Province. They are situated near the upper reaches of the Haerbaling Reservoir. Most of the weapons, manufactured years ago, are

now in a badly rusted and eroded state. Any signficiant leakage will undouotedly endanger the lives of the local population and have disastrous consequences for their property and the environment. Such instances have been a source of bitter grievance and serious concern for the Chinese people.

I. Quantities of chemical munitions and agents abandoned in China by a foreign State

1. Quantities of chemical munitions

(1) Discovered but not yet destroyed: approximately 2 million pieces (as most of the munitions are still buried, the exact figure has yet to be verified after excavation).

(2) Destroyed or given preliminary treatment by China: more than 300,000 pieces.

2. Quantities of toxic chemical agents

(1) Discovered but not yet completely destroyed: approximately 100 tons.

(2) Destroyed by China: more than 20 tons

II. Types of discovered chemical munitions and toxic agents abandoned in China by a foreign State

1. Types of chemical munitions

(1) 150 mm chemical sheels: shells containing a mustard gas-Lewisite mixture and shells containing diphenylcyanoarsine.

(2) 105 mm chemical shells: shells containing a mustard gas-Lewisite mixture and shells containing diphenylcyanoarsine.

(3) 90 mm chemical mortar shells: mortar shells containing a mustard gas-Lewisite mixture and mortar shells containing diphenylcyanoarsine.

(4) 75 mm phosgene shells: phosgene shells and diphenylcyanoarsine shells.

(5) chemical aerial bombs, 81 mm chemical mortar shells, and chemical munitions of other calibres as well as toxic smoke candles and canisters.

2. Types of toxic agents

Main types of toxic agents include: mustard gas, mustard gas-Lewisite mixture, diphenylcyanoarsine, hydrocyanic acid, phosgene, phenyl cyanoethyl ketone.

III. Geographical distribution of the discovered chemical munitions and agents abandoned in China by a foreign state

1. Locations where chemical munitions and agents have been destroyed or given preliminary treatment by China

(1) Fujin County in Heilongjiang Province: more than 100,000 chemical shells (150, 105, 75, 90 mm).

(2) Shangzhi City in Heilongjiang Province: more than 200,000 chemical shells (150, 105, 75, 90 mm) and more than 1,100 kilograms of toxic agents.

(3) Mudanjiang City in Heilongjiang Province: 4 barrels of mustard gas-Lewisite toxic agents (more than 400 kg) destroyed in 1982 by a chemical process. Others are still buried and have yet to be excavated.

(4) Acheng City in Heilongjiang Province: more than 300 chemical shells and 10 tons of toxic agents.

(5) Changchun City in Jilin Province as well as Shenyang City, Fengcheng County and other places in Liaoning Province: 10.8 tons of various toxic agents destroyed during 1973-1986.

(6) Cities of Taiyuan and Datong in Shanxi Province, Shijiazhuang in Hebei Province, and Bengbu in Anhui Province: more than 10,000 chemical shells (150, 105, 75 mm) completely destroyed by 1988.

2. Locations where the relevant information is available but the chemical munitions have yet to be destroyed

(1) Sunwu County in Heilongjiang Province: 513 chemical shells (150, 105 mm), 4 boxes of toxic smoke canisters, 2 barrels of toxic agents.

(2) Bayan County in Heilongjiang Province: more than 100 chemical shells.

(3) Town of Weijin in the Meihekou region of Jilin Province: 74 tons of mustard gas-Lewisite toxic agents, solidified with lime.

(4) Suburbs of Jilin City in Jilin Province: more than 40 chemical shells (75 mm).

(5) Gaocheng City in Hebei Province: 50 phosgene shells (75 mm).

(6) Hangzhou City in Zhejiang Province: 33 chemical shells (75 mm, types unknown). Others are still buried and have yet to be excavated.

(7) Nanjing City in Jiangsu Province: 4 barrels of mustard gas (originally there were 6 barrels but two of them began leaking and were therefore destroyed in 1990 by a chemical process).

(8) Suburbs of Hohhot City in the Inner Mongolia Autonomous Region: 3 barrels of mustard gas.

3. Locations where exact quantities of the buried chemical munitions have yet to be verified

(1) Dunhua region of Jilin Province

Local historical documents as well as statements of those who helped to bury or transport munitions reveal that there are more than 1.8 million pieces of chemical munitions in the area. They are mainly chemical shells of 75, 105 and 150 mm and chemical mortar shells of 90 mm, as well as small quantities of chemical aerial bombs and other types of chemical munitions.

(2) Meihekou region of Jilin Province

Chemical munitions abandoned by a foreign State were buried under the railroad tracks near the railway station. They are mainly chemical shells of 75, 105 and 150 mm.

4. Locations where chemical munitions may have been buried, as revealed by preliminary investigations

Harbin, Acheng, and Qiqihaer regions of Heilongjiang Province;

Huichun and Changchun regions as well as Quilogou and Malugou in Dunhua region of Jilin Province.

CONFERENCE ON DISARMAMENT

CD/1127 /Corr.1
CD/CW/WP.384 /Corr.1
26 February 1992

Original: ENGLISH

CHINA

Some information on discovered chemical weapons abandoned in China by a foreign State

Corrigendum

1. Page 2, Section II, paragraph 2, penultimate line:

   Replace the term "phenyl cyanoethyl ketone" by the word "chloroacetophenone".

2. Page 4, Section III, paragraph 4, penultimate line:

   Replace the word "Quilogou" by the word "Qiuligou".

GE.92-60454

UN

CONFERENCE ON DISARMAMENT

CD/1128
CD/CW/WP.385
20 February 1992

Original: ENGLISH

AUSTRALIA

TRIAL INSPECTION OF A SCHEDULE 3/ "OTHER RELEVANT" FACILITY

Introduction

It has been accepted since the late 1960's that some parts of the civil chemical industry will have to be monitored under the provisions of a Chemical Weapons Convention (CWC), to provide the necessary confidence that chemical industry is not involved in the clandestine production of chemical weapons. In particular, the verification of "Non-Production" of chemical weapons in the civilian chemical industry has been a particular focus of attention.

In Appendix I of the current Rolling Text (CD/1116), there are provisions for on-site inspections of those parts of chemical industry that produce, process or consume chemicals in Schedule 2 (above a specified threshold). Discussions concerning the elaboration of provisions to monitor facilities that produce, process or consume Schedule 3 chemicals are continuing, and indeed have been the focus of much of the work undertaken in Working Group B in 1991.

Within the civil chemical industry, there are many facilities that are not involved in the production, processing or consumption of any of the chemicals in Schedules 1, 2 or 3, and hence not declared under the current provisions of the CWC, that would be capable of producing at least some of those chemicals. In 1991, work was undertaken in developing provisions for routine on-site inspections of these "CW-capable" or "Other Relevant" facilities, and the results of this are contained in Appendix 2 to the current Rolling Text. As well, two recent Working Papers, one By Sweden (CD/1053) and one by a group of eight nations (Egypt, Ethiopia, Indonesia, Iran, Kenya, Nigeria, Pakistan and Yugoslavia) (CD/348) have offered suggestions on the possible form of on-site inspections at short notice for Schedule 3 and "Other Relevant" facilities.

* * * *

GE.92-60373

As part of Australia's Chemical Weapons Regional Initiative, a Workshop for Government chemists was held at the Australian Defence Science and Technology Organisation (DSTO) Materials Research Laboratory (MRL) between 26-30 August 1991. One of the activities of this workshop was a Trial Inspection of a Schedule 3 or "Other Relevant" Chemical Facility. One of the objectives of the inspection was to familiarise the participants of the workshop on the possible form of routine qualitative inspections of Schedule 3 and other "Other Relevant" facilities to be carried out under the future CWC.

The Trial Inspection was conducted by Australia. Participants from Brunei, Federated States of Micronesia, Fiji, Indonesia, Kiribati, Laos, Malaysia, Myanmar, New Zealand, Philippines, Papua New Guinea, Singapore, Solomon Islands, Thailand, Vanuatu and Vietnam observed the conduct of the inspection.

This inspection is described in the remainder of this working paper.

Objectives of the Inspection

The basic objectives for the verification regime to cover these facilities should be:

a. to deter the covert production, in chemical industry, of Scheduled chemicals which may then be used for CW purposes; and

b. to provide assurance to States Parties that other States Parties are not using their chemical industry in violation of the CWC.

In our view, these objectives may best be realised for Schedule 3 or Other Relevant Facilities, by using the plantsite as the unit of declaration and inspection. In order for this inspection regime to be both effective and cost-effective, the inspection of the plantsite would need to be carried out in a reasonably short time, preferably within one working day, without a prior "facility agreement".

With this in mind, the trial inspection was conducted with a view to:

. investigate the feasibility of inspecting a chemical plantsite without a previously agreed "facility agreement";

. determine whether the activities observed at the inspected plantsite were consistent with the information provided by the company during an initial briefing to the inspection team;

. look for any unusual features that could be suggestive of the company violating the CWC; and

. check for the presence of any undeclared Scheduled chemicals

- and if present, check whether the presence of that chemical was consistent with legitimate activities below the reporting threshold.

Conduct of Inspection

Briefing by Company Staff

Upon arrival at the site, the inspection team was given a brief history of the company and a general outline of its current activities by the Managing Director of the company.

The production manager then gave a technical description of the raw materials, the finished products, the manufacturing processes used on the site, using a site plan as a guide. The inspection team were advised that the company consumed more than 30 tonnes of Triethanolamine per year. Triethanolamine is currently listed in a footnote to Schedule 3 in CD/1116. Depending on the ultimate placement of Triethanolamine, this facility may be either a Schedule 3 or "Other Relevant" facility under the future CWC.

In summary, the team was told that:

. the site covered an area of approximately two hectares;

. approximately 120 staff were employed at the site;

. the facility undertook both formulation and chemical reactions (acid-base); and

. at the time of the inspection there were 3.2 tonnes of Triethanolamine on the plantsite.

In response to a question from the inspection team leader, the production manager stated that there was no Thionyl Chloride at the site.

Development of the Inspection Plan

Making use of the site plan and the information that had been provided by the company officials during the briefing, the inspection team (team leader and chemical engineer) then developed an inspection plan, in consultation with the company technical manager and production manager.

. The development of the plan took 15-20 minutes.

It was agreed that the inspection would focus on the Therapeutical Plant, the Main Production Area, the "Former Chlorination Plant" and the centralised Waste Effluent plant. The company agreed that company staff would take samples for the inspection team from quality control sampling points or other agreed sampling points, provided the analysis methods used by the team were designed to indicate the presence or

absence of Scheduled chemicals and provided no information on chemicals that are not relevant to the CWC. The company also agreed that the team could use a portable ion mobility spectrometer vapour detector (Chemical Agent Monitor, CAM) to monitor for the presence or absence of vapours of certain Schedule 1 chemicals.

It was further agreed that the inspection plan would be flexible, allowing the inspection team to walk through other parts of the plantsite, but that the inspection team would confine itself to the negative proof approach and would be no more instrusive than necessary in order to satisfy itself that the company was not involved in activities that would be in violation of the CWC.

The inspection team were also advised of the safety regulations in operation at the plantsite.

Details of the Inspection

1. Therapeutical Plant

The inspection team walked from the reception area to the Therapeutical Plant and observed the operations within this plant.

The Chemical Agent Monitor (CAM) was used to monitor the effluent air from this plant.

A random sample was requested from the raw materials storage area of this plant.

Result - The Therapeutical Plant was observed to be a modern production area operating at positive pressure - the team's chemical engineer commented that the plant could readily be converted to operate at negative pressure. There was no CAM response, and the analysis of the sample did not indicate the presence of any Scheduled chemicals.

2. Main Production Area

The inspection team walked through the "Main Production Area (MPA)", observed the operations within the MPA, requested a random sample from one of the several Stainless Steel reaction vessels, and requested a random sample from one of the product storage tanks.

Result - It was observed that there was no forced or induced ventilation in the MPA. The workers were wearing protective hats and corrosive-resistant gloves, but there were no signs of any gas masks or other protective clothing.

3. Dry Powder Area

The inspection team walked through and observed the operations being conducted in the "Dry Powder Area".

Result - The team observed nothing that it considered relevant to the objectives of the inspection in this area, and did not request that any samples be taken for analysis.

4. Former Chlorination Plant

The inspection team inspected the "Former Chlorination Plant", observed any operations being conducted in this plant, monitored the plant with a CAM, and took a wipe sample from this plant.

Result - This plant was idle at the time of inspection. There was no CAM response, and no indication of any activities with toxic chemicals. The analysis of the wipe sample did not indicate the presence of any Scheduled chemicals.

5. Waste Effluent Plant

The inspection team inspected the Waste Effluent Plant, monitored the headspace with the CAM, took a headspace sample with a Tenax tube, and took a waste water sample.

Result - There was no CAM response. The analysis of the headspace and waste water samples did not indicate the presence of any Scheduled chemicals in the samples.

6. Storage Areas

The inspection team walked through the Finished Goods Store (FGS), the open air raw materials storage area, and the open drum storage area. Several of the storage drums were monitored with the CAM (the CAM inlet was held approximately 20mm from the closed caps of the drums).

Result - The FGS had natural ventilation. A fork lift driver in the FGS was not wearing any protective clothing.

The quantity of storage drums labelled Triethanolamine observed in the raw materials storage area was consistent with the company information that there were 3.2 tonnes of this chemical on the site at the time of the inspection.

No drums of Thionyl Chloride were observed in the storage area. A CAM response was obtained from near the closed filling cap of one of the drums in the open drum storage area. A sample was requested - subsequent analysis indicated that the sample did not contain any Scheduled chemicals (see Annex 1). The team concluded that the CAM had recorded a "false alarm".

7. Laboratories

The inspection team walked through and observed the features and operations of the quality control laboratory, and walked down the corridor of the building containing the R & D laboratory. The team looked through the doorway into, but did not enter, the R & D laboratory.

Result - The inspection team concluded that there was no evidence that the laboratories were configured for the handling of toxic chemicals, nor did they have any features that could be suggestive of the company violating the CWC.

8. Sick Bay

The team leader was shown the sick bay.

Result - The sick bay was observed to be a small room containing a small bed and a small medicine cabinet. There were no medicines or therapies related to the treatment of poisoning by chemical warfare agents, or any breathing apparatus.

Conclusions

The inspection team concluded that, provided the inspection team contained an appropriately trained and experienced chemical engineer and chemist, it was possible to develop an appropriate inspection plan for a chemical plantsite, within a reasonably short time (15-20 minutes).

By the conduct of an inspection based on this inspection plan, the inspection team concluded that all of the activities that were observed during the inspection were consistent with the consumption of the declared quantity of Triethanolamine, and were consistent with the information received from the company staff during the initial briefing. The inspection team was satisfied that the company was not involved in activities that would be in violation of the CWC.

The actual inspection took approximately 1.5 hours, and the analysis of the samples approximately 2.5 hours.

At the conclusion of the inspection, the production manager of the inspected plantsite commented favourably on the conduct of the inspection, noting that there had been no loss of production because of the inspection, and that the company was satisfied that the inspection team had taken the necessary measures with regard to the protection of confidential information and data.

Participants of the workshop noted with interest the conduct of the inspection.

ANNEX 1 - CHEMICAL ANALYSIS

As discussed in a recent report of the Technical Instrumentation Group (CD/CW/WP,306), it is anticipated that the sample preparation and analysis of samples in this type of inspection under the CWC will normally be conducted on-site, using equipment brought to the inspection site by the inspection team.

MRL has purchased a small Gas Chromatograph-Mass Spectrometer (GC-MS) system, that is to be installed in a vehicle, to enable on-site analysis of inspection samples. As the GC-MS has not yet been vehicle-mounted, the samples were taken from the inspected facility to MRL for analysis.

The analysis of the samples by GC-MS was undertaken using the approach described in CD/CW/WP.353, namely, the GC-MS was used as a rapid screening technique to indicate the presence of Scheduled chemicals, and provided no information on chemicals that are not relevant to the CWC.

Prior to analysis, a 1.0 ml aliquot of each liquid sample was extracted with 1.0 ml of HPLC grade dichloromethane. This extract was dried by passing it through a small column of anhydrous Na_2SO_4, and a 1.0 microlitre splitless injection of this solution was used for GC-MS analysis. A 25m 0.33mm I.D. BP5 capillary column, temperature programmed from 50° to 250°C/min, was used for the analysis. Tenax air samples were analysed by thermal desorption-GC-MS using similar GC conditions.

The mass spectrum corresponding to each GC peak was compared with a library of mass spectra of Scheduled chemicals to determine the presence or absence of Scheduled chemicals, using the approach outlined in CD/CW/WP.353. No undeclared Scheduled Chemicals were detected in any of the samples obtained during the inspection.

Had this been a normal trial inspection, no further analysis of samples would have been performed. However, as part of the Workshop, additional laboratory analysis of the samples was undertaken as a demonstration of other relevant techniques. Analysis of samples by Infrared (IR) and Nuclear Magnetic Resonance (NMR) Spectroscopy was performed, again, to check for the presence or absence of Scheduled chemicals. The workshop participants noted that this additional analysis would not normally be undertaken unless there was an ambiguity, for example, in the GC-MS results.

CONFERENCE ON DISARMAMENT

CD/1129
CD/CW/WP.386
20 February 1992

Original: ENGLISH

AUSTRALIA

AUSTRALIAN NATIONAL SECRETARIAT: SURVEY OF CHEMICAL INDUSTRY

1. Introduction

At the Government-Industry Conference against Chemical Weapons, held in Canberra in September 1989, the Australian Foreign Minister announced that the Department of Foreign Affairs and Trade was proceeding to establish a National Secretariat to act as a nucleus for the future National Authority of the CWC. The Minister stated that the Secretariat, in consultation with appropriate Federal and State Government departments, would be responsible for reviewing existing laws and regulations covering the activities of the Australian chemical industry, and looking for ways to introduce and adapt the prospective requirements of the CWC to the current regulatory matrix.

The first task of the Secretariat was to develop a strategy to prepare Australia for national implementation of a CWC. The strategy comprises a program of consultation and research leading to the development of a package of implementation measures which will be considered by the Australian Government at the appropriate time. A document entitled "Strategy for Preparing for the Implementation of the Chemical Weapons Convention in Australia" was presented to the Conference on Disarmament in February 1991 (CD/1055).

That paper served to illustrate the fact that there is a wide range of tasks which must be initiated ahead of time by any government if it is to be able to commit its country in good faith to the CWC at the time of entry into force.

An important requirement under the future CWC, highlighted in the above mentioned Strategy Paper, is the assembling of data on which chemicals relevant to the CWC are produced, used, and traded. When considering its approach to implementation, Australia's National Secretariat was faced with the problem of not knowing the levels of production or use of the relevant chemicals in Australia. This is a fundamental question which is critical for any country in determining not only the size and shape of its National Authority, but also the overall national implementation effort which will be required.

In common with most other countries, chemicals are heavily regulated in Australia. While this regulation means that various databases on chemical production do exist, it became clear that in themselves, these would not meet all the requirements of the CWC. Because of differences in the way these databases were structured, difficulties were also found in assembling this information in a format suitable for the CWC. Furthermore it was likely, given that these databases are held by different governments within Australia, that there would have been issues of access to resolve. Consequently Australia's National Secretariat concluded it would be necessary to conduct a survey of chemicals which was tailor-made to meet the requirements of the CWC.

2. Survey Design

The survey was designed to the National Secretariat's specifications by the Australian Bureau of Statistics, the government agency responsible for the conduct of the Australian census of population and housing and a large number of industry surveys.

The key objective of the survey was to collect the information about the production, processing and consumption of chemicals that would be required from Australia by the International Organisation when the CWC comes into effect. It was also designed to collect similar information about chemical weapons precursor chemicals subject to Australian export controls.

A first step in the design of the survey was to analyse which organisations would be covered. Analysis of the peaceful purposes for which scheduled chemicals could be used suggested that as well as chemical manufacturers and industrial chemical users, government agencies and laboratories at both Commonwealth and State government levels, universities and hospitals needed to be included.

The main features of the survey methodology were:

. it was a mail survey

. participation was voluntary

. it was directed to companies, not individual plants.

The survey deliberately did not include companies solely engaged in the distribution of, or trade in chemicals. It was considered that this would introduce an element of double-counting between traders and users

and in any case alternative - and possible more reliable - import and export data is potentially available from government sources.

Because it was a mail survey an up-to-date mailing list was required. Such a list was developed on the basis of chemical industry directories supplemented by business telephone directories. Government directories of hospitals and tertiary institutions were used for these organisations. State and territory governments were asked to nominate government organisations at these levels for inclusion on the mailing list. Similarly Commonwealth departments were asked to nominate relevant agencies at this level of government.

This process yielded some 2000 companies and organisations including chemical manufacturers, industrial chemical users, government agencies and laboratories, hospitals and universities to whom the questionnaire was eventually sent.

3. Development of the Survey Questionnaire

In order to ask companies and organisations about the production of chemicals a manageable list of individual chemicals was required.

The chemicals to be covered by the Chemical Weapons Convention are listed in three schedules. Within these schedules some chemicals are listed individually, and others are listed as "families", the families approach having been adopted by our negotiations here in order that all relevant chemicals be covered. Because some of these families may contain a large number of chemicals, however, it was not possible to specify a complete list of chemicals which will be covered by legislation implementing the CWC in Australia.

For the purposes of the survey, the Australian Inventory of Chemical Substances (AICS) was used to identify individual chemicals within the families which are produced in or imported to Australia. The inventory was developed under national occupational health and safety legislation as the basis for distinguishing between existing chemicals and new chemicals for the purposes of assessing a newly introduced chemical's health and safety impact. AICS was used in this survey as an alternative to generating a list of chemicals containing thousands of individual chemicals, most of which would not be relevant to Australia.

A copy of the Survey questionnaire is attached to this paper. It will be noted that for questions relating to families of chemicals, individual chemicals of the family are listed first, followed by a question on other members of the same family. To further assist respondents, a page of the questionnaire provides chemical information on these families.

In addition to scheduled chemicals, the survey covers a list of additional chemicals (Section C, items 18 to 40), which may be used in the production of scheduled chemicals. These additional chemicals are covered by Australian export controls.

The questionnaire was developed by the Australian Bureau of Statistics with the technical assistance of the Materials Research Laboratory, chemical industry organisations and a number of chemical companies.

4. Conduct of the Survey

The survey was conducted in December 1991. Respondents were sent the questionnaire, a covering letter from the

National Secretariat seeking their co-operation and providing a contact name and telephone number for any queries, and a self-addressed, postage-paid envelope. One reminder letter was sent to respondents who did not meet the due date for return of the questionnaire. At an appropriate interval those who fail to respond to the reminder letter will receive a reminder telephone call.

The mail-out was preceded by pre-survey publicity in two chemical industry association newsletters. Two weeks before the questionnaire was sent out, a letter from the head of the Chemical Confederation of Australia requesting co-operation was sent to all addressees on the mailing list.

Data entry and analysis will commence as soon as the last returns have been received. When this is completed Australia will be in a better position to determine its implementation requirements including resource questions in relation to its National Authority. Valuable experience will also have been provided to assist in the design of the compulsory data reporting system which will be introduced under the Australian CWC implementing legislation.

Australia will present a Working Paper incorporating the results of the survey when this is available.

It is hoped that this preliminary communication, in particular the survey methodology and questionnaire, will assist other countries in undertaking similar exercises in preparation for the implementation of the CWC.

DEPARTMENT OF FOREIGN AFFAIRS AND TRADE

Survey of Chemical Industry

November 1991

Confidentiality

Your completed form remains confidential to the Department of Foreign Affairs and Trade.

Due Date

Please complete this form and return it to the address below by
3 December 1991

Help Available

Chemicals marked with a * have a brief technical note on page 26.

If you have any other problems in completing this form or if you require additional copies, please contact Henry Fox on (06) 261 2431 or Sherree Minehan on (06) 261 2338.

Instructions

Please answer all questions carefully, even if you have not handled or produced any of the chemicals listed.

We are interested in your entire Australian operations, so please compile your information accordingly.

Careful estimates should be provided only when actual figures cannot be obtained.

This survey collects information about the **1990** calendar year.

Return Address

The Executive Officer
Chemical Industry Survey - CBS
D-3-N / DND
Department of Foreign Affairs and Trade
Canberra A.C.T. 2600

A. **Were the chemicals described below produced, synthesized, consumed or handled during 1990 in ANY amount:**

Include - amounts imported and exported
- amounts processed without conversion

1 a. O-isopropyl methylphosphonofluoridate
(Sarin, CAS Number 107-44-8)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

b. O-pinacolyl methylphosphonofluoridate
(Soman, CAS Number 96-64-0)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

c. Other O-Alkyl *($\leq C_{10}$, including cycloalkyl)* alkyl *(Me, Et, n-Pr, or i-Pr)*-**phosphonofluoridates *?**

No . . . . . ☐ 1
Yes *(Specify name(s) below)* . . . . . ☐ 2

2 a. O-ethyl N,N-dimethylphosphoramidocyanidate
(Tabun, CAS Number 77-81-6)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

b. Other O-Alkyl *($\leq C_{10}$, including cycloalkyl)* N,N-dialkyl *(Me, Et, n-Pr or i-Pr)* **phosphoramidocyanidates *?**

No . . . . . ☐ 1
Yes *(Specify name(s) below)* . . . . . ☐ 2

3 a. O-ethyl S-2-diisopropylaminoethyl methyl phosphonothiolate
(VX, CAS Number 50782-69-9)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

b. Other O-Alkyl *(H or $\leq C_{10}$, including cycloalkyl)* S-2-dialkyl *(Me, Et, n-Pr or i-Pr)*-aminoethyl alkyl *(Me, Et, n-Pr, or i-Pr)* **phosphonothiolates *** *and corresponding alkylated and protonated salts?*

No . . . . . ☐ 1
Yes *(Specify name(s) below)* . . . . . ☐ 2

4 a. Methylphosphonyldifluoride
(DF, CAS Number 676-99-3)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

b. Other Alkyl *(Me, Et, n-Pr or i-Pr)* **phosphonyldifluorides *?**

No . . . . . ☐ 1
Yes *(Specify name(s) below)* . . . . . ☐ 2

5 a. O-ethyl O-2-diisopropylaminoethyl methylphosphonite
(QL, CAS Number 57856-11-8)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

b. Other O-Alkyl *(H or $\leq C_{10}$, including cycloalkyl)* O-2-dialkyl *(Me, Et, n-Pr or i-Pr)*-aminoethyl alkyl *(Me, Et, n-Pr or i-Pr)* **phosphonites *,** *and corresponding alkylated and protonated salts?*

No . . . . . ☐ 1
Yes *(Specify name(s) below)* . . . . . ☐ 2

6 a. O-isopropyl methylphosphonochloridate
(Chloro Sarin, CAS Number 1445-76-7)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

b. O-pinacolyl methylphosphonochloridate
(Chloro Soman, CAS Number 7040-57-5)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

c. Other O-Alkyl *($\leq C_{10}$, including cycloalkyl)* alkyl *(Me, Et, n-Pr or i-Pr)*-**phosphonochloridates *?**

No . . . . . ☐ 1
Yes *(Specify name(s) below)* . . . . . ☐ 2

Additional chemical names from above - if you need more space please use page 10. *[CAS Number]*

A. Were the chemicals described below produced, synthesized, consumed or handled during 1990 in ANY amount:

Include: - amounts imported and exported
- amounts processed without conversion

7 a. bis (2-chloroethyl) sulphide
(Mustard gas, CAS Number 505-60-2)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

b. 1,2 bis (2-chloroethylthio)-ethane
(Sesquimustard, CAS Number 3563-36-8)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

c. bis (2-chloroethylthioethyl) ether
(O-mustard, CAS Number 63918-89-8)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

d. bis (2-chloroethylthio) methane
(CAS Number 63869-13-6)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

e. 1,3-bis (2-chloroethylthio)-n-propane
(CAS Number 63905-10-2)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

f. 1,4-bis (2-chloroethylthio)-n-butane
(CAS Number not available)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

g. 2-chloroethylchloromethylsulphide
(CAS Number 2625-76-5)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

h. 1,5-bis (2-chloroethylthio)-n-pentane
(CAS Number not available)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

i. bis-(2-chloroethylthiomethyl) ether
(CAS Number not available)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

8 a. 2-chlorovinyldichloroarsine
(Lewisite 1, CAS Number 541-25-3)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

b. bis (2-chlorovinyl) chloroarsine
(Lewisite 2, CAS Number 40334-69-8)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

c. tris (2-chlorovinyl) arsine
(Lewisite 3, CAS Number 40334-70-1)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

9 a. bis (2-chloroethyl) ethylamine
(HN1, CAS Number 538-07-8)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

b. bis (2-chloroethyl) methylamine
(HN2, CAS Number 51-75-2)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

c. tris (2-chloroethyl) amine
(HN3, CAS Number 555-77-1)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

10 3-quinuclidinyl benzilate
(BZ, CAS Number 6581-06-2)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

11 Saxitoxin
(CAS Number 35523-89-8)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

12 Ricin
(CAS Number 9009-86-3)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

13 3,3-Dimethylbutan-2-ol
(Pinacolyl alcohol, CAS Number 464-07-3)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

B. Were the chemicals described below produced, synthesized, consumed or handled during 1990 in amounts which total at least 10 kilograms:

Include - amounts imported and exported
- amounts processed without conversion

1 a. N, N-dimethyl phosphoramidic dichloride
(CAS Number 677-43-0)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

b. Other N, N-Dialkyl *(Me, Et, n-Pr, or i-Pr)* alkyl *(Me, Et, n-Pr, or i-Pr)*-
phosphoramidic dihalides?

No . . . . . ☐ 1
Yes *(Specify name(s) below)* . . . . . ☐ 2

2 a. Diethyl-N, N-dimethylphosphoramidiate
(CAS Number 2404-03-7)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

b. Other Dialkyl *(Me, Et, n-Pr, or i-Pr)* N, N-dialkyl *(Me, Et, n-Pr, or i-Pr)*
phosphoramidates?

No . . . . . ☐ 1
Yes *(Specify name(s) below)* . . . . . ☐ 2

3 Arsenic trichloride
(CAS Number 7784-34-1)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

4 2,2-Diphenyl-2-hydroxyacetic acid
(CAS Number 76-93-7)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

5 Quinuclidin-3-ol
(CAS Number 1619-34-7)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

6 Bis (2-hydroxyethyl) sulphide (thiodiglycol)
(CAS Number 111-48-8)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

7 a. N, N-diethylaminoethyl-2-chloride, hydrochloride
(CAS Number 869-24-9)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

b. Chlorocholine chloride
(CAS Number 999-81-5)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

c. N, N-diisopropyl-2-aminoethyl chloride
(CAS Number 96-70-7)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

d. N, N-diisopropyl-2-aminoethyl chloride hydrochloride
(CAS Number 4261-68-1)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

e. Other N, N-Dialkyl *(Me, Et, n-Pr or i-Pr)*
aminoethyl-2-chlorides
and corresponding alkylated and protonated salts?

No . . . . . ☐ 1
Yes *(Specify name(s) below)* . . . . . ☐ 2

Additional chemical names from above - if you need more space please use page 10.

	[CAS Number]

B. Were the chemicals described below produced, synthesized, consumed or handled during 1990 in amounts which total at least 10 kilograms:

Include - amounts imported and exported
- amounts processed without conversion

8 a. 2-Dimethylaminoethanol
(CAS Number 108-01-0)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

b. 2-Diethylaminoethanol
(CAS Number 100-37-8)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

c. 2-Di-isopropylaminoethanol
(CAS Number 96-80-0)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

d. Choline
(CAS Number 62-49-7)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

e. Choline carbonate
(CAS Number 78-73-9)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

f. Choline chloride
(CAS Number 67-48-1)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

g. Choline hydroxide
(CAS Number 123-41-1)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

h. Choline methyl sulphate
(CAS Number 65151-62-4)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

i. Choline dihydrogen citrate
(CAS Number 77-91-8)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

j. Tricholine citrate
(CAS Number 546-63-4)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

k. Choline bitartrate
(CAS Number 87-67-2)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

l. Other N, N-Dialkyl *(Me, Et, n-Pr, or i-Pr)*
aminoethane-2-ols
and corresponding alkylated and protonated salts?

No . . . . . ☐ 1
Yes *(Specify name(s) below)* . . . . . ☐ 2

9 a. N,N-diisopropyl-2-aminoethane thiol
(CAS Number 5842-07-9)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

b. Dimethylaminoethane-2-thiol hydrochloride
(CAS Number 13242-44-9)?

No . . . . . ☐ 1
Yes . . . . . ☐ 2

c. Other N, N-Dialkyl *(Me, Et, n-Pr, or i-Pr)*
aminoethane-2-thiols
and corresponding alkylated and protonated salts?

No . . . . . ☐ 1
Yes *(Specify name(s) below)* . . . . . ☐ 2

Additional chemical names from above - if you need more space please use page 10. *[CAS Number]*

B. Were the chemicals described below produced, synthesized, consumed or handled during 1990 in amounts which total at least 10 kilograms:

Include amounts imported and exported
amounts processed without conversion

10 a. O-ethyl S-phenyl ethylphosphonothiolothionate
(Fonofos, CAS Number 944-22-9)?

No ☐ 1
Yes ☐ 2

b. Diethyl ethyl phosphonate
(CAS Number 78-38-6)?

No ☐ 1
Yes ☐ 2

c. Methyl phosphonic acid
(CAS Number 993-13-5)?

No ☐ 1
Yes ☐ 2

d. Dimethyl methylphosphonate
(CAS Number 756-79-6)?

No ☐ 1
Yes ☐ 2

e. Diphenyl methylphosphonate
(CAS Number 7526-26-3)?

No ☐ 1
Yes ☐ 2

f. Phosphonic acid, methyl- methyl 3-(trimethoxysilyl)-propyl ester
(CAS Number 67812-17-3)?

No ☐ 1
Yes ☐ 2

g. Phosphonic acid, methyl-, monoammonium salt
(CAS Number 34255-87-3)?

No ☐ 1
Yes ☐ 2

h. Phosphonic acid, methyl-, monoethyl ester
(CAS Number 73750-69-3)?

No ☐ 1
Yes ☐ 2

i. Methyl phosphonyl dichloride
(CAS Number 676-97-1)?

No ☐ 1
Yes ☐ 2

j. Phosphonothioic dichloride, ethyl-
(CAS Number 993-43-1)?

No ☐ 1
Yes ☐ 2

k. Methyl phosphinyl dichloride
(CAS Number 676-83-5)?

No ☐ 1
Yes ☐ 2

l. Phosphonic acid, methyl-, bis(3-trimethoxysilyl) propyl ester
(CAS Number 67812-18-4)?

No ☐ 1
Yes ☐ 2

m. Phosphonic acid, methyl-, compounded with (aminoiminomethyl) urea (1:1)
(CAS Number 84402-58-4)?

No ☐ 1
Yes ☐ 2

n. Phosphonic acid, methyl-, (5-ethyl-2-methyl-1,3,2-dioxaphosphorinan-5-yl) methyl methyl ester, P, oxide)
(Antiblaze 19, CAS Number 41203-81-0)?

No ☐ 1
Yes ☐ 2

o. Phosphonic acid, methyl-, bis[(5-ethyl-2-methyl-1,3,2-dioxaphosphorinan-5-yl) methyl ester, P, P' dioxide)]
(Antiblaze 19, CAS Number 42595-45-9)?

No ☐ 1
Yes ☐ 2

p. 1,2-Oxaphospholan-5-one, 2-methyl-, 2-oxide
(Trevira 271, CAS Number 15171-48-9)?

No ☐ 1
Yes ☐ 2

q. Methyl phosphinyl difluoride
(CAS Number 753-59-3)?

No ☐ 1
Yes ☐ 2

B. Were the chemicals described below produced, synthesized, consumed or handled during 1990 in amounts which total at least 10 kilograms:

Include: - amounts imported and exported
- amounts processed without conversion

10 r. Ethyl phosphinyl dichloride
(CAS Number 1498-40-4)?

No . . . . . ☐1
Yes . . . . . ☐2

s. Ethyl phosphonyl dichloride
(CAS Number 1066-50-8)?

No . . . . . ☐1
Yes . . . . . ☐2

t. Diethyl methylphosphonite
(CAS Number 15715-41-0)?

No . . . . . ☐1
Yes . . . . . ☐2

u. Dimethyl ethylphosphonate
(CAS Number 6163-75-3)?

No . . . . . ☐1
Yes . . . . . ☐2

v. Diethyl methylphosphonate
(CAS Number 1683-08-9)?

No . . . . . ☐1
Yes . . . . . ☐2

w. Ethyl phosphinyl difluoride
(CAS Number 430-78-4)?

No . . . . . ☐1
Yes . . . . . ☐2

x. Other chemicals containing a phosphorus atom to which is bonded an alkyl (Me-, Et-, n-Pr- or i-Pr-) group but no other carbon atoms *?
Exclude - chemicals listed in Q1, Q2 or above

No . . . . . ☐1
Yes *(Specify name(s) below)* . . . . . ☐2

Additional chemical names from above - if you need more space please use page 10. *[CAS Number]*

C. Were the chemicals described below produced, synthesized, consumed or handled during 1990 in amounts which total at least 100 kilograms:

Include: - amounts imported and exported
- amounts processed without conversion

1 Phosgene
(Carbonic dichloride, CAS Number 75-44-5)?

No ☐1
Yes ☐2

2 Cyanogen chloride
(CAS Number 506-77-4)?

No ☐1
Yes ☐2

3 Hydrogen cyanide
(Hydrocyanic acid, CAS Number 74-90-8)?

No ☐1
Yes ☐2

4 Trichloronitromethane
(Chloropicrin, CAS Number 76-06-2)?

No ☐1
Yes ☐2

5 Phosphorus oxychloride
(Phosphoryl chloride, CAS Number 10025-87-3)?

No ☐1
Yes ☐2

6 Phosphorus trichloride
(CAS Number 7719-09-7)?

No ☐1
Yes ☐2

7 Phosphorus pentachloride
(CAS Number 10026-13-8)?

No ☐1
Yes ☐2

8 Trimethyl phosphite
(CAS Number 121-45-9)?

No ☐1
Yes ☐2

9 Triethyl phosphite
(CAS Number 122-52-1)?

No ☐1
Yes ☐2

10 Dimethyl phosphite
(CAS Number 868-85-9)?

No ☐1
Yes ☐2

11 Diethyl phosphite
(CAS Number 762-04-9)?

No ☐1
Yes ☐2

12 Sulphur monochloride
(CAS Number 10025-67-9)?

No ☐1
Yes ☐2

13 Sulphur dichloride
(CAS Number 10545-99-0)?

No ☐1
Yes ☐2

14 Thionyl chloride
(CAS Number 7719-09-7)?

No ☐1
Yes ☐2

15 Triethanolamine
(CAS Number 102-71-6)?

No ☐1
Yes ☐2

16 Ethyldiethanolamine
(CAS Number 139-87-7)?

No ☐1
Yes ☐2

17 Methyldiethanolamine
(CAS Number 105-59-9)?

No ☐1
Yes ☐2

C. Were the chemicals described below produced, synthesized, consumed or handled during 1990 in amounts which total at least 100 kilograms:

Include - amounts imported and exported
- amounts processed without conversion

18 Hydrogen fluoride
(Hydrofluoric acid, CAS Number 7664-39-3)?

No ☐ 1
Yes ☐ 2

19 Ammonium bifluoride
(Ammonium hydrogen fluoride, CAS Number 1341-49-7)?

No ☐ 1
Yes ☐ 2

20 Sodium bifluoride
(Sodium hydrogen fluoride, CAS Number 1333-83-1)?

No ☐ 1
Yes ☐ 2

21 Sodium fluoride
(CAS Number 7681-49-4)?

No ☐ 1
Yes ☐ 2

22 Potassium fluoride
(CAS Number 7789-23-3)?

No ☐ 1
Yes ☐ 2

23 Potassium bifluoride
(Potassium hydrogen fluoride, CAS Number 7789-29-9)?

No ☐ 1
Yes ☐ 2

24 Sodium sulphide
(CAS Number 1313-82-2)?

No ☐ 1
Yes ☐ 2

25 Phosphorus pentasulphide
(CAS Number 1314-80-3)?

No ☐ 1
Yes ☐ 2

26 Sodium cyanide
(CAS Number 143-33-9)?

No ☐ 1
Yes ☐ 2

27 Potassium cyanide
(CAS Number 151-50-8)?

No ☐ 1
Yes ☐ 2

28 2-Chloroethanol
(CAS Number 107-07-3)?

No ☐ 1
Yes ☐ 2

29 3, 3-Dimethyl-2-butanone
(Pinacolone, CAS Number 75-97-8)?

No ☐ 1
Yes ☐ 2

30 Dimethylamine
(CAS Number 124-40-3)?

No ☐ 1
Yes ☐ 2

31 Dimethylamine hydrochloride
(CAS Number 506-59-2)?

No ☐ 1
Yes ☐ 2

32 Diisopropylamine
(CAS Number 108-18-9)?

No ☐ 1
Yes ☐ 2

33 3-Quinuclidone
(CAS Number 3731-38-2)?

No ☐ 1
Yes ☐ 2

34 Phosphorus sulfochloride
(Thiophosphoryl chloride, CAS Number 3982-91-0)?

No ☐ 1
Yes ☐ 2

35 Triethanolamine hydrochloride
(CAS Number 637-39-8)?

No ☐ 1
Yes ☐ 2

36 Oxalyl chloride
(CAS Number 79-37-8)?

No ☐ 1
Yes ☐ 2

C. Were the chemicals described below produced, synthesized, consumed or handled during 1990 in amounts which total at least 100 kilograms:

Include: - amounts imported and exported
- amounts processed without conversion

37 Tert-butylamine
(CAS Number 109-52-9)?

No ☐ 1
Yes ☐ 2

38 Sodium azide
(CAS Number 26628-22-8)?

No ☐ 1
Yes ☐ 2

39 Morpholine
(CAS Number 110-91-8)?

No ☐ 1
Yes ☐ 2

40 Decalin
(CAS Number 91-17-8)?

No ☐ 1
Yes ☐ 2

D. **Were the chemicals described below produced, synthesized, consumed or handled during 1990 in amounts which total at least 1 kilogram:**

Include: - amounts imported and exported
- amounts processed without conversion

1 a. O, O-Diethyl S- (2- (diethylamino) ethyl) phosphorothiolate
(Amiton, CAS Number 78-53-5)?

No ☐ 1
Yes ☐ 2

b. Alkylated and/or protonated salts of O, O-Diethyl S- (2- (diethylamino) ethyl) phosphorothiolate?

No ☐ 1
Yes *(Please specify below)* ☐ 2

Chemical name

[CAS Number]

2 1,1,3,3,3,-pentafluoro-2-(trifluoromethyl)-1-propene
(PFIB, CAS Number 382-21-8)?

No ☐ 1
Yes ☐ 2

E. Did you answer "Yes" to any chemical in Section A?

No *(Go to Section F)* ☐ 1
Yes ☐ 2

How many different chemicals from Section A were handled?

Number

Complete Section I for each such chemical

F. Did you answer "Yes" to any chemical in Section B?

No *(Go to Section G)* ☐ 1
Yes ☐ 2

How many different chemicals from Section B were handled?

Number

Complete Section J for each such chemical

G. Did you answer "Yes" to any chemical in Section C?

No *(Go to section H)* ☐ 1
Yes ☐ 2

How many different chemicals from Section C were handled?

Number

Complete Section K for each such chemical

H. Did you answer "Yes" to any chemical in Section D?

No *(See note at bottom of page)* ☐ 1
Yes ☐ 2

How many different chemicals from Section D were handled?

Number

Complete Section L for each such chemical

If you answered "No" to ALL of Questions E, F, G and H, please turn to the back page.

If you answered "Yes" to ANY of Questions E, F, G, or H, *please turn to page 11.*

Question number	*Additional chemical names*	*[CAS Number]*

I. **If you answered "No" to Question E,** *go to page 13.*
If you answered "Yes" to Question E, *complete the section below for each chemical handled in Section A.*

*NOTE: Please report all quantities to the nearest **0.1 gram**. If a quantity is 'NIL', please write '0'.*
*Report figures for your **1990** operations.*
If you require extra sheets for this section, contact the Department or photocopy this page.

CHEMICAL 1 (from Section A)

Question number | Common or Trade Name | CAS Number

Chemical Name

Name and Address of Facility where chemical handled and/or stored

Quantity produced	Quantity processed without conversion	Quantity consumed
grams	grams	grams
Quantity imported	**Quantity exported**	**Quantity stored on 31/12/90**
grams	grams	grams

CHEMICAL 2 (from Section A)

Question number | Common or Trade Name | CAS Number

Chemical Name

Name and Address of facility where chemical handled and/or stored

Quantity produced	Quantity processed without conversion	Quantity consumed
grams	grams	grams
Quantity imported	**Quantity exported**	**Quantity stored on 31/12/90**
grams	grams	grams

I. **If you answered "No" to Question E,** *go to page 13.*
If you answered "Yes" to Question E, *continue completing the section below for Section A chemicals.*

*NOTE: Please report all quantities to the nearest **0.1 gram**. If a quantity is 'NIL', please write '0'.*
*Report figures for your **1990** operations.*
If you require extra sheets for this section, contact the Department or photocopy this page.

CHEMICAL 3 (from Section A)

Question number | Common or Trade Name | CAS Number

Chemical Name

Name and Address of Facility where chemical handled and/or stored

Quantity produced ____ grams

Quantity processed without conversion ____ grams

Quantity consumed ____ grams

Quantity imported ____ grams

Quantity exported ____ grams

Quantity stored on 31/12/90 ____ grams

CHEMICAL 4 (from Section A)

Question number | Common or Trade Name | CAS Number

Chemical Name

Name and Address of facility where chemical handled and/or stored

Quantity produced ____ grams

Quantity processed without conversion ____ grams

Quantity consumed ____ grams

Quantity imported ____ grams

Quantity exported ____ grams

Quantity stored on 31/12/90 ____ grams

J. **If you answered "No" to Question F,** *go to page 17.*
If you answered "Yes" to Question F, *complete the section below for each chemical handled in Section B.*

NOTE: Please report all quantities to the nearest ***10 kilograms****. If a quantity is 'NIL', please write '0'.*
Report figures for your ***1990*** *operations.*
If you require extra sheets for this section, contact the Department or photocopy this page

CHEMICAL 1 (from Section B)

Question number | Common or Trade Name | CAS Number

Chemical Name

Name and Address of Facility where chemical handled and/or stored

Quantity produced ____ kilograms | Quantity processed without conversion ____ kilograms | Quantity consumed ____ kilograms

Quantity imported ____ kilograms | Quantity exported ____ kilograms | Quantity stored on 31/12/90 ____ kilograms

CHEMICAL 2 (from Section B)

Question number | Common or Trade Name | CAS Number

Chemical Name

Name and Address of facility where chemical handled and/or stored

Quantity produced ____ kilograms | Quantity processed without conversion ____ kilograms | Quantity consumed ____ kilograms

Quantity imported ____ kilograms | Quantity exported ____ kilograms | Quantity stored on 31/12/90 ____ kilograms

J. **If you answered "No" to Question F,** *go to page 17.*
If you answered "Yes" to Question F, *continue completing the section below for Section B chemicals.*

*NOTE: Please report all quantities to the nearest **10 kilograms**. If a quantity is 'NIL', please write '0'.*
*Report figures for your **1990** operations.*
If you require extra sheets for this section, contact the Department or photocopy this page.

CHEMICAL 3 (from Section B)

Question number | Common or Trade Name | CAS Number

Chemical Name

Name and Address of Facility where chemical handled and/or stored

Quantity produced	Quantity processed without conversion	Quantity consumed
kilograms	kilograms	kilograms
Quantity imported	**Quantity exported**	**Quantity stored on 31/12/90**
kilograms	kilograms	kilograms

CHEMICAL 4 (from Section B)

Question number | Common or Trade Name | CAS Number

Chemical Name

Name and Address of facility where chemical handled and/or stored

Quantity produced	Quantity processed without conversion	Quantity consumed
kilograms	kilograms	kilograms
Quantity imported	**Quantity exported**	**Quantity stored on 31/12/90**
kilograms	kilograms	kilograms

J. **If you answered "No" to Question F,** *go to page 17.*
If you answered "Yes" to Question F, *continue completing the section below for Section B chemicals.*

NOTE: Please report all quantities to the nearest ***10 kilograms****. If a quantity is 'NIL', please write '0'.*
Report figures for your ***1990*** *operations.*
If you require extra sheets for this section, contact the Department or photocopy this page.

CHEMICAL 5 (from Section B)

Question number | Common or Trade Name | CAS Number

Chemical Name

Name and Address of Facility where chemical handled and/or stored

Quantity produced ____ kilograms | Quantity processed without conversion ____ kilograms | Quantity consumed ____ kilograms

Quantity imported ____ kilograms | Quantity exported ____ kilograms | Quantity stored on 31/12/90 ____ kilograms

CHEMICAL 6 (from Section B)

Question number | Common or Trade Name | CAS Number

Chemical Name

Name and Address of facility where chemical handled and/or stored

Quantity produced ____ kilograms | Quantity processed without conversion ____ kilograms | Quantity consumed ____ kilograms

Quantity imported ____ kilograms | Quantity exported ____ kilograms | Quantity stored on 31/12/90 ____ kilograms

J. If you answered "No" to Question F, *go to page 17.*
If you answered "Yes" to Question F, *continue completing the section below for Section B chemicals.*

NOTE: Please report all quantities to the nearest ***10 kilograms****. If a quantity is 'NIL', please write '0'.*
Report figures for your ***1990*** *operations.*
If you require extra sheets for this section, contact the Department or photocopy this page.

CHEMICAL 7 (from Section B)

Question number | Common or Trade Name | CAS Number

Chemical Name

Name and Address of Facility where chemical handled and/or stored

Quantity produced ____ kilograms | Quantity processed without conversion ____ kilograms | Quantity consumed ____ kilograms

Quantity imported ____ kilograms | Quantity exported ____ kilograms | Quantity stored on 31/12/90 ____ kilograms

CHEMICAL 8 (from Section B)

Question number | Common or Trade Name | CAS Number

Chemical Name

Name and Address of facility where chemical handled and/or stored

Quantity produced ____ kilograms | Quantity processed without conversion ____ kilograms | Quantity consumed ____ kilograms

Quantity imported ____ kilograms | Quantity exported ____ kilograms | Quantity stored on 31/12/90 ____ kilograms

K. **If you answered "No" to Question G,** *go to page 25.*
If you answered "Yes" to Question G, *complete the section below for each chemical handled in Section C.*

NOTE: Please report all quantities to the nearest ***100 kilograms****. If a quantity is 'NIL', please write '0'.*
Report figures for your ***1990*** *operations.*
If you require extra sheets for this section, contact the Department or photocopy this page.

CHEMICAL 1 (from Section C)

Question number | Common or Trade Name | CAS Number

Chemical Name

Name and Address of Facility where chemical handled and/or stored

Quantity produced	Quantity processed without conversion	Quantity consumed
kilograms	kilograms	kilograms
Quantity imported	**Quantity exported**	**Quantity stored on 31/12/90**
kilograms	kilograms	kilograms

CHEMICAL 2 (from Section C)

Question number | Common or Trade Name | CAS Number

Chemical Name

Name and Address of facility where chemical handled and/or stored

Quantity produced	Quantity processed without conversion	Quantity consumed
kilograms	kilograms	kilograms
Quantity imported	**Quantity exported**	**Quantity stored on 31/12/90**
kilograms	kilograms	kilograms

K. **If you answered "No" to Question G,** *go to page 25.*
If you answered "Yes" to Question G, *continue completing the section below for Section C chemicals.*

NOTE: Please report all quantities to the nearest ***100 kilograms****. If a quantity is 'NIL', please write '0'.*
Report figures for your ***1990*** *operations.*
If you require extra sheets for this section, contact the Department or photocopy this page.

CHEMICAL 3 (from Section C)

Question number | Common or Trade Name | CAS Number

Chemical Name

Name and Address of Facility where chemical handled and/or stored

Quantity produced	Quantity processed without conversion	Quantity consumed
kilograms	kilograms	kilograms
Quantity imported	**Quantity exported**	**Quantity stored on 31/12/90**
kilograms	kilograms	kilograms

CHEMICAL 4 (from Section C)

Question number | Common or Trade Name | CAS Number

Chemical Name

Name and Address of facility where chemical handled and/or stored

Quantity produced	Quantity processed without conversion	Quantity consumed
kilograms	kilograms	kilograms
Quantity imported	**Quantity exported**	**Quantity stored on 31/12/90**
kilograms	kilograms	kilograms

K. **If you answered "No" to Question G,** ***go to page 25.***
If you answered "Yes" to Question G, *continue completing the section below for Section C chemicals.*

NOTE: Please report all quantities to the nearest ***100 kilograms****. If a quantity is 'NIL', please write '0'.*
Report figures for your ***1990*** *operations.*
If you require extra sheets for this section, contact the Department or photocopy this page.

CHEMICAL 5 (from Section C)

Question number | Common or Trade Name | CAS Number

Chemical Name

Name and Address of Facility where chemical handled and/or stored

Quantity produced	Quantity processed without conversion	Quantity consumed
kilograms	kilograms	kilograms
Quantity imported	**Quantity exported**	**Quantity stored on 31/12/90**
kilograms	kilograms	kilograms

CHEMICAL 6 (from Section C)

Question number | Common or Trade Name | CAS Number

Chemical Name

Name and Address of facility where chemical handled and/or stored

Quantity produced	Quantity processed without conversion	Quantity consumed
kilograms	kilograms	kilograms
Quantity imported	**Quantity exported**	**Quantity stored on 31/12/90**
kilograms	kilograms	kilograms

K. **If you answered "No" to Question G,** *go to page 25.*
If you answered "Yes" to Question G, *continue completing the section below for Section C chemicals.*

NOTE: Please report all quantities to the nearest ***100 kilograms****. If a quantity is 'NIL', please write '0'.*
Report figures for your ***1990*** *operations.*
If you require extra sheets for this section, contact the Department or photocopy this page.

CHEMICAL 7 (from Section C)

Question number | Common or Trade Name | CAS Number

Chemical Name

Name and Address of Facility where chemical handled and/or stored

Quantity produced ____ kilograms | Quantity processed without conversion ____ kilograms | Quantity consumed ____ kilograms

Quantity imported ____ kilograms | Quantity exported ____ kilograms | Quantity stored on 31/12/90 ____ kilograms

CHEMICAL 8 (from Section C)

Question number | Common or Trade Name | CAS Number

Chemical Name

Name and Address of facility where chemical handled and/or stored

Quantity produced ____ kilograms | Quantity processed without conversion ____ kilograms | Quantity consumed ____ kilograms

Quantity imported ____ kilograms | Quantity exported ____ kilograms | Quantity stored on 31/12/90 ____ kilograms

K. **If you answered "No" to Question G,** *go to page 25.*
If you answered "Yes" to Question G, *continue completing the section below for Section C chemicals.*

NOTE: Please report all quantities to the nearest ***100 kilograms****. If a quantity is 'NIL', please write '0'.*
Report figures for your ***1990*** *operations.*
If you require extra sheets for this section, contact the Department or photocopy this page.

CHEMICAL 9 (from Section C)

Question number | Common or Trade Name | CAS Number

Chemical Name

Name and Address of Facility where chemical handled and/or stored

Quantity produced	Quantity processed without conversion	Quantity consumed
kilograms	kilograms	kilograms
Quantity imported	**Quantity exported**	**Quantity stored on 31/12/90**
kilograms	kilograms	kilograms

CHEMICAL 10 (from Section C)

Question number | Common or Trade Name | CAS Number

Chemical Name

Name and Address of facility where chemical handled and/or stored

Quantity produced	Quantity processed without conversion	Quantity consumed
kilograms	kilograms	kilograms
Quantity imported	**Quantity exported**	**Quantity stored on 31/12/90**
kilograms	kilograms	kilograms

K. **If you answered "No" to Question G,** *go to page 25*
If you answered "Yes" to Question G, *continue completing the section below for Section C chemicals.*

NOTE: Please report all quantities to the nearest ***100 kilograms****. If a quantity is 'NIL', please write '0'.*
Report figures for your ***1990*** *operations.*
If you require extra sheets for this section, contact the Department or photocopy this page.

CHEMICAL 11 (from Section C)

Question number | Common or Trade Name | CAS Number

Chemical Name

Name and Address of Facility where chemical handled and/or stored

Quantity produced	Quantity processed without conversion	Quantity consumed
kilograms	kilograms	kilograms
Quantity imported	**Quantity exported**	**Quantity stored on 31/12/90**
kilograms	kilograms	kilograms

CHEMICAL 12 (from Section C)

Question number | Common or Trade Name | CAS Number

Chemical Name

Name and Address of facility where chemical handled and/or stored

Quantity produced	Quantity processed without conversion	Quantity consumed
kilograms	kilograms	kilograms
Quantity imported	**Quantity exported**	**Quantity stored on 31/12/90**
kilograms	kilograms	kilograms

K. If you answered "No" to Question G, *go to page 25*.
If you answered "Yes" to Question G, *continue completing the section below for Section C chemicals.*

*NOTE: Please report all quantities to the nearest **100 kilograms**. If a quantity is 'NIL', please write '0'.*
*Report figures for your **1990** operations.*
If you require extra sheets for this section, contact the Department or photocopy this page.

CHEMICAL 13 (from Section C)

Question number | Common or Trade Name | CAS Number

Chemical Name

Name and Address of Facility where chemical handled and/or stored

Quantity produced	Quantity processed without conversion	Quantity consumed
kilograms	kilograms	kilograms
Quantity imported	**Quantity exported**	**Quantity stored on 31/12/90**
kilograms	kilograms	kilograms

CHEMICAL 14 (from Section C)

Question number | Common or Trade Name | CAS Number

Chemical Name

Name and Address of facility where chemical handled and/or stored

Quantity produced	Quantity processed without conversion	Quantity consumed
kilograms	kilograms	kilograms
Quantity imported	**Quantity exported**	**Quantity stored on 31/12/90**
kilograms	kilograms	kilograms

K. **If you answered "No" to Question G,** *go to page 25*
If you answered "Yes" to Question G, *continue completing the section below for Section C chemicals.*

NOTE: Please report all quantities to the nearest ***100 kilograms****. If a quantity is 'NIL', please write '0'.*
Report figures for your ***1990*** *operations.*
If you require extra sheets for this section, contact the Department or photocopy ***this page****.*

CHEMICAL 15 (from Section C)

Question number | Common or Trade Name | CAS Number

Chemical Name

Name and Address of Facility where chemical handled and/or stored

Quantity produced	Quantity processed without conversion	Quantity consumed
kilograms	kilograms	kilograms
Quantity imported	**Quantity exported**	**Quantity stored on 31/12/90**
kilograms	kilograms	kilograms

CHEMICAL 16 (from Section C)

Question number | Common or Trade Name | CAS Number

Chemical Name

Name and Address of facility where chemical handled and/or stored

Quantity produced	Quantity processed without conversion	Quantity consumed
kilograms	kilograms	kilograms
Quantity imported	**Quantity exported**	**Quantity stored on 31/12/90**
kilograms	kilograms	kilograms

L. **If you answered "No" to Question H,** ***go to back page.***
If you answered "Yes" to Question H, *complete the section below for each chemical handled in Section D.*

NOTE: Please report all quantities to the nearest ***kilogram****. If a quantity is 'NIL', please write '0'.*
Report figures for your ***1990*** *operations.*
If you require extra sheets for this section, contact the Department or photocopy this page.

CHEMICAL 1 (from Section D)

Question number | Common or Trade Name | CAS Number

Chemical Name

Name and Address of Facility where chemical handled and/or stored

Quantity produced	Quantity processed without conversion	Quantity consumed
kilograms	kilograms	kilograms
Quantity imported	**Quantity exported**	**Quantity stored on 31/12/90**
kilograms	kilograms	kilograms

CHEMICAL 2 (from Section D)

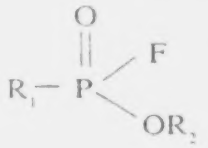
Question number | Common or Trade Name | CAS Number

Chemical Name

Name and Address of facility where chemical handled and/or stored

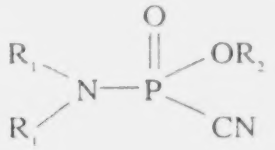
Quantity produced	Quantity processed without conversion	Quantity consumed
kilograms	kilograms	kilograms
Quantity imported	**Quantity exported**	**Quantity stored on 31/12/90**
kilograms	kilograms	kilograms

Question A 1 c: Other O-alkyl alkyl phosphonofluoridates



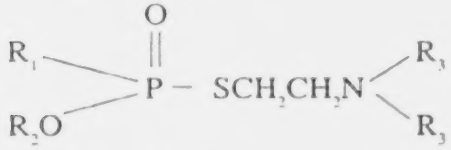
$R_1 = CH_3, C_2H_5, C_3H_8$
$R_2 = C_nH_{2n+1}$, n = 1 to 10

Question A 2 b: Other O-alkyl N,N-dialkyl phosphoramidocyanidates



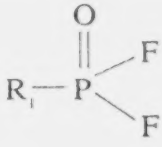
$R_1 = CH_3, C_2H_5, C_3H_8$
$R_2 = C_nH_{2n+1}$, n = 1 to 10

Question A 3 b: Other O-alkyl S-2-dialkyl aminoethyl alkyl phosphonothiolates



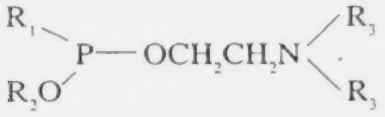
$R_1 = CH_3, C_2H_5, C_3H_8$
$R_2 = C_nH_{2n+1}$, n = 0 to 10
$R_3 = CH_3, C_2H_5, C_3H_8$

Question A 4 b: Other alkyl phosphonyldifluorides



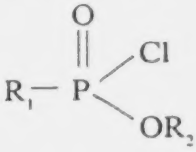
$R_1 = CH_3, C_2H_5, C_3H_8$

Question A 5 b: Other O-alkyl O-2-dialkyl aminoethyl alkyl phosphonites



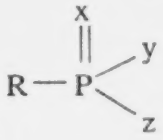
$R_1 = CH_3, C_2H_5, C_3H_8$
$R_2 = C_nH_{2n+1}$, n = 0 to 10
$R_3 = CH_3, C_2H_5, C_3H_8$

Question A 6 c: Other O-alkyl alkyl phosphonochloridates

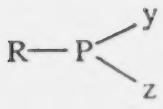


$R_1 = CH_3, C_2H_5, C_3H_8$
$R_2 = C_nH_{2n+1}$, n = 1 to 10

Question B 10 x: Other chemicals containing a phosphorus atom to which is bonded an alkyl group but no other carbon atoms



or



x, y and z may be any functional group or heteratom, provided that no other carbon atoms are directly bonded to this phosphorus.

All of the chemicals in Question B 10 are examples of the structure described.

M **Did you answer yes to any of the chemicals or chemical groups listed inside the form?**

No *(Go to Question P)* . . . . . ☐ 1

Yes . . . . . ☐ 2

N **Did you need any extra sheets for Sections I, J, K or L?**

No *(Go to Question P)* . . . . . ☐ 1

Yes . . . . . ☐ 2

O **How many extra sheets did you need?**

Number ☐

P **What is the name of the organization** *(company, facility, laboratory, etc.)* **covered by this questionnnaire?**

Name

Mailing Address

Q **If we have any queries about this form, who should we contact?**

Name and title

Address

Telephone Number

R **Do you have any comments about this collection?**

S **Please return this form by 3 December to:**

The Executive Officer
Chemical Industry Survey - CBS
D-3-N/DND
Department of Foreign Affairs and Trade
Parkes A.C.T. 2600

THANK YOU FOR YOUR CO-OPERATION

CONFERENCE ON DISARMAMENT

CD/1130
CD/CW/WP.387
20 February 1992

ENGLISH
Original: CHINESE

CHINA

Principled Position and Proposals on the Issue of Abandoned Chemical Weapons

I

1. The objective of the future convention is the complete prohibition and thorough destruction of all types of chemical weapons and the realization of a chemical-weapon-free world. As the issue of the chemical weapons abandoned in a victim State by another State is of direct relevance to this objective, a just solution will have to be found within the framework of the convention and form an essential part of it. An important consensus to this effect has already been reached in the Conference and its Ad Hoc Committee on Chemical Weapons, and is clearly reflected in the rolling texts of 1990 and 1991.

2. The necessity and relevance of arriving at a solution is self-evident. The act of using and abandoning chemical weapons by a State on the territory of another State is certainly not a mere "historical problem" that concerns only the States directly involved; it is of relevance to the entire international community. Furthermore, the possibility that such acts might be committed again cannot be excluded before the chemical-weapon-free world becomes a reality. The issue of abandoned chemical weapons is, therefore, an important one that has a bearing on the rights and obligations of each and every State party to the convention.

3. The issue of abandoned chemical weapons, being inherently related to definitions of chemical weapons as well as provisions on their use, declaration, destruction, verification, sanctions and cooperation, should be dealt with in a balanced, reasonable and integrated way, and the resulting provisions should become an integral part of the convention. Only then can the convention become truly comprehensive, effective and universal.

4. As an international legal document of unlimited duration, the convention must contain equitable provisions on abandoned chemical weapons, clearly setting forth the rights and obligations of States parties, including the principle that the State which used and abandoned chemical weapons shall bear the responsibility for undoing the consequences of such uses and for

destroying the chemical weapons it abandoned. This is a fair and reasonable principle at all times; only by establishing such a principle can past wrongdoings be duly dealt with and future ones prevented. If, on the other hand, responsibility were imposed on the victim State, it would be not only a great injustice to the victim State, but also tantamount to allowing and encouraging a chemical-weapon-State to use chemical weapons against, and abandon such weapons in, another State whenever it pleases regardless of the consequences. This would obviously run counter to the letter and spirit of the convention.

5. As the circumstances under which chemical weapons were abandoned or will probably be abandoned may not be identical, they should be dealt with accordingly, in a pragmatic fashion. In setting forth the principle that the abandoning State shall bear the responsibility for destruction, the convention should not preclude the possibility that appropriate solutions may be found through consultations among the States concerned.

6. The precise role of the organization to be set up under the future convention in facilitating the solution of the problems of abandoned chemical weapons and in completing the destruction processes should be specified in the convention, and fully adhered to in practice.

II

7. The Chinese delegation has been working actively to promote an early and appropriate solution to the issue of abandoned chemical weapons on the basis of the foregoing position of principle. For this purpose, we now reiterate and further propose the following necessary additions and changes to the relevant paragraphs in the rolling text:

8. Paragraph 3 of Article I should read:

> "3. Each State Party undertakes to destroy chemical weapons which are in its possession or under its [jurisdiction or] control, <u>except as provided in paragraph 5 below</u>."

Furthermore, a new paragraph 5 should be added at the end of Article I:

> "<u>5. Each State Party undertakes to destroy all chemical weapons it abandoned on the territory of another State, and the States concerned may on this basis seek proper solutions through consultations among themselves</u>."

9. A new paragraph on the definition of abandoned chemical weapons should be inserted after paragraph 1 of Article II:

> "<u>The term 'Abandoned Chemical Weapons' means any chemical weapons abandoned in the past or in the future by a State on the territory of another State without its consent during a war or a conflict or under other circumstances</u>."

10. Paragraph 1 (a) (i) of Article III should read:

"(i) Whether it owns or possesses any chemical weapons, or whether there are any chemical weapons located in any place under its jurisdiction or control, or whether it has abandoned any chemical weapons in any place in other States;"

Furthermore, paragraph 1 (a) (ii) of Article III should read:

"(ii) Whether it has on its territory any chemical weapons located in any place under the jurisdiction or control of other States or that are under the ownership or possession of other States or have been abandoned by other States;"

11. Two new paragraphs C and D should be inserted in section I of the Annex to Article III (with the original paragraph C renumbered as paragraph E):

"C. Existence of chemical weapons abandoned elsewhere

Yes ...

No ..."

"D. Existence on the territory of any chemical weapons abandoned by anyone else

Yes ...

No ..."

12. Paragraph 1 of Article IV should read:

"1. The provisions of this Article and its Annex shall apply to any and all chemical weapons owned or possessed by a State Party, or that are located in any place under its jurisdiction or control or have been abandoned by it in any place in other States."

In paragraph 2 of Article IV, subparagraphs (a), (b) and (d) should read, respectively:

"(a) Specify the precise location, aggregate quantity and detailed inventory of the chemical weapons it owns or possesses, or that are located in any place under its jurisdiction or control or have been abandoned by it in any place in other States;

"(b) Report any chemical weapons on its territory that are located in any place under the jurisdiction or control of other States or have been abandoned by other States;

"(d) Provide its general plan for destruction of chemical weapons it owns or possesses, or that are located in any place under its jurisdiction or control or have been abandoned by it in any place in other States."

Paragraph 3 of Article IV should read:

"Each State Party shall, immediately after the declaration under paragraph 2 of this Article has been submitted, provide access to the chemical weapons it owns or possesses, or that are located in any place under its jurisidiction or control, or that it has discovered abandoned by other States, for the purpose of systematic international on-site verification of the declaration through on-site inspection. Thereafter, each State Party shall ensure, through access to the chemical weapons it owns or possesses, or that are located in any place under its jurisdiction or control, or that it has discovered abandoned by other States, for the purpose of systematic international on-site verification and through on-site inspection and continuous monitoring with on-site instruments, that the chemical weapons are not removed except to a chemical weapons destruction facility."

In paragraph 6 of Article IV, subparagraphs (a) and (c) should read, respectively:

"(a) Destroy any chemical weapons it owns or possesses or that are located in any place under its jurisdiction or control, or have been abandoned by it in any place in other States, pursuant to the order of destruction specified in the Annex to Article IV, beginning not later than one year after the Corvention enters into force for it, and finishing not later than 10 years after the Convention enters into force; however, a State Party is not precluded from destroying them at a faster pace;

"(c) Certify, not later than 30 days after the destruction process has been completed, that any chemical weapons it owns or possesses, or that are located in any place under its jurisdiction or control, or that it has discovered abandoned by other States, have been destroyed."

Furthermore, paragraph 7 of Article IV should read:

"7. Each State Party, during its transportation, sampling, storage, and destruction of any chemical weapons it owns or possesses, or that are located in any place under its jurisdiction or control, or have been abandoned by it in any place in other States, shall assign the highest priority to ensuring the safety of people and to protecting the environment. Each State party shall transport, sample, store and destroy such chemical weapons in accordance with national standards for safety and emissions."

13. A new paragraph C should be inserted under section I of the Annex to Article IV (with the original paragraphs C, D and E renumbered as paragraphs D, E and F, respectively):

"C. Information on abandoned chemical weapons:

1. A State Party that has discovered any abandoned chemical weapons shall declare:

(1) the time of each discovery.

(2) the location of each discovery (name and geographical coordinates).

(3) the types of abandoned chemical weapons discovered by it.

(4) the quantities of abandoned chemical weapons discovered by it.

(5) the treatment given.

2. A State Party that has abandoned any chemical weapons shall declare:

(1) the time of each abandonment.

(2) the location of each abandonment (name and geographical coordinates).

(3) the types of chemical weapons abandoned by it.

(4) the quantities of chemical weapons abandoned by it.

Furthermore, a new provision on "abandoned chemical weapons" should be added after "multi-component chemical weapons" in section III.B of the Annex to Article IV:

"Abandoned chemical weapons

The destruction of abandoned chemical weapons discovered before the date the Convention enters into force shall be completed not later than five years after the entry into force of the Convention; the destruction of abandoned chemical weapons discovered after the date the Convention enters into force shall be completed not later than two years after their discovery."

14. A new paragraph 11 should be added to Article X:

"11. If any State Party discovers on its territory any chemical weapons abandoned by a State not Party to the Convention, or if the abandoning State cannot be identified, the Organization shall, at the request of the State Party that discovers such weapons, provide assistance in the destruction of those abandoned chemical weapons."

CONFERENCE ON DISARMAMENT

CD/1131
20 February 1992

ENGLISH
Original: SPANISH

LETTER DATED 18 FEBRUARY 1992 FROM THE REPRESENTATIVES OF ARGENTINA AND BRAZIL ADDRESSED TO THE SECRETARY-GENERAL OF THE CONFERENCE ON DISARMAMENT TRANSMITTING THE TEXT OF THE JOINT DECLARATION OF THE PRESIDENTS OF ARGENTINA AND BRAZIL ON THE OCCASION OF THE 25TH ANNIVERSARY OF THE SIGNING OF THE TREATY OF TLATELOLCO

We have the honour to transmit to you the text of the "Joint Declaration of the President of the Argentine Republic, Carlos Menem, and the President of the Federative Republic of Brazil, Fernando Collor, on the occasion of the 25th anniversary of the signing of the Treaty of Tlatelolco".

We should be very grateful if you, Sir, in accordance with the established practice, would arrange for this text to be issued as an official document of the Conference on Disarmament and distributed to all delegations, both of member States and of States with observer status.

(Signed) Roberto García Moritán
Ambassador
Representative of the
Argentine Republic for
Disarmament

(Signed) Celso L.N. Amorim
Ambassador
Representative of Brazil
to the International Organizations
at Geneva

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JOINT DECLARATION OF THE PRESIDENT OF THE ARGENTINE REPUBLIC, CARLOS MENEM, AND THE PRESIDENT OF THE FEDERATIVE REPUBLIC OF BRAZIL, FERNANDO COLLOR, ON THE OCCASION OF THE 25TH ANNIVERSARY OF THE SIGNING OF THE TREATY OF TLATELOLCO

"1. Since assuming the presidencies of our countries, we have given a new and determined impulse towards a common nuclear policy, including the aspect of non-proliferation. We were always inspired by the idea of endowing our nuclear programmes with internal and external transparency and of demonstrating to the international community the exclusively peaceful objectives which guide them, in keeping with the spirit of the Treaty of Tlatelolco.

2. Those programmes reflect the determination and political will of our Governments to strengthen regional and international peace and security, by the adoption, inter alia, of clear verification mechanisms.

3. In that context, in the Declaration of Foz do Iguaçú on Common Nuclear Policy, of 28 November 1990, we agreed on three concrete steps:

The creation of a Common System of Accounting and Control of Nuclear Materials;

The conclusion of a joint safeguards agreement with the International Atomic Energy Agency; and

The taking of appropriate action to permit the full entry into force for the two countries of the Treaty of Tlatelolco, including action to update and improve its wording.

4. The international community is witness to the rapidity and efficacy with which the results of this undertaking, known to all, were achieved:

The Agreement between Argentina and Brazil for the Exclusively Peaceful Use of Nuclear Energy, signed on 18 July 1991 in the City of Guadalajara and since adopted by the Congresses of the two countries and ratified by both Governments, representing implementation of the first step; and

The signature, on 13 December 1991, of the Agreement for the Application of Safeguards between Argentina, Brazil, the Brazilian-Argentine Agency for Accounting and Control of Nuclear Materials and the International Atomic Energy Agency.

5. Today we are taking effective measures for the implementation of the third and last commitment of the Declaration of Foz do Iguaçú. At the earliest possible opportunity we shall submit for the consideration of OPANAL some amendments to the text of the Treaty of Tlatelolco, of a primarily technical nature not affecting its principles and purposes in any way.

6. We are asking all the countries of our region for the necessary support for this initiative, whose objective is to facilitate the application of the Treaty.

7. We congratulate the Government of France on its decision to ratify Protocol I to the Treaty of Tlatelolco, which will contribute to the definitive establishment, hopefully in the near future, of its juridical validity for the entire region for which it is intended.

8. All of these recent developments, indicative of a deep and shared desire to strengthen Latin America and the Caribbean as a zone free of nuclear weapons, lead us to the common conviction that finalization of the process, now announced, of adoption of amendments to the text of the Treaty, will decisively open the way for its entry into force in our countries.

9. In this way, Argentina and Brazil are contributing clearly and constructively to the establishment of a new international scenario, characterized by cooperation and confidence-building between nations, as central elements for the maintenance of international peace and security."

BUENOS AIRES - BRASILIA, 14 FEBRUARY 1992